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HOW TO REDUCE LABOR TURNOVER

BY BOYD FISHER,

Vice-President, Detroit Executives' Club.

No one knows how much it costs to break in new men. The most conservative estimate of any authority is \$40 per man, but this, as well as every other estimate, is, after all, only an estimate. No one has yet used an exact cost system for recording the waste of unnecessary hiring and firing. I myself prepared such a system and submitted it to the employment managers' division of the Executives' Club last September. As yet no one has put it into effect, although several plants have promised to do so as soon as conditions warrant.

THE GREAT COST OF LABOR TURNOVER

Aside from the rather careful estimates made by W. A. Grieves and Magnus Alexander, we have only occasional flashes of evidence as to the great cost of labor turnover. One of the most startling evidences, which has come to my attention, may be gleaned from the report of a meeting of the production methods group of the Executives' Club on September 20, 1916.

Mr. J. T. B. Rheinfeldt, head of the manufacturing standards department of the Packard Motor Car Company, had explained the methods by which his department had rated the expected capacity of every machine and production center in that great plant. He gave out the information that the ideal capacity was 25 per cent higher than the expected capacity—that is, his company has 25 per cent more equipment than would be necessary to turn out the work, if it were not necessary to allow for delays, breakdowns and low-speed production.

I now quote from the minutes:

Mr. Beatty asked if the standard time allowed to the men were included in the 25 per cent allowance or not.

Mr. Rheinfeldt said that whenever a method was changed, a new time study was made. The allowance of 25 per cent was a blanket to cover shortages, absence, keeping the machine going, repair, etc.

Mr. Fisher asked how much of the 25 per cent was due to the turnover of labor

—that is, if there was no absence to be contended with, how much this 25 per cent could be reduced.

Mr. Rheinfeldt said that if the labor turnover were zero, the factor could be eliminated entirely, as the allowance on the time study would care for the repairs, breakage of tools and machines, etc.

Think of this for a moment. The physical equipment of the Packard Motor Car Company is worth, in round figures, \$9,000,000. If the turnover of labor were reduced to zero, this huge investment could, in Mr. Rheinfeldt's opinion, be reduced by \$1,800,000. The interest at 6 per cent on this amount of money is \$108,000 per annum.

Nor is this all. Is it not fair to assume that labor cost would also be reduced 25 per cent if there were no turnover? If so, out of 12,000 employees the wages of 2,400 men and supervisors, anything from a million and a half to two and a half million dollars a year, could be wiped out.

Now a word about the reliability of the above figures. They are not worth very much. In the first place, Mr. Rheinfeldt may have been in error in estimating his ideal capacity. He may have overstated the case, too, when he gave it as his opinion that a complete elimination of turnover would eliminate the 25 per cent extra capacity added to the standard time allowance. Furthermore, I have purposely avoided giving exact figures on equipment investment and on the wages of one-fifth of 12,000 employees. I do not want the figures on cost of turnover in the Packard plant to seem to be exact.

But I do want to enforce this point. The Packard employment department is one of the oldest and best conducted in Detroit. It has already effected vast savings in cost of turnover and yet the head of the standards department, the man who, with his assistants, sets all standard working times in the plant, estimates that new and inexperienced workmen reduce the speed of production so much that a 25 per cent allowance of equipment, buildings, direct labor and supervision must be made.

Figure what it would mean to your company annually to add 25 per cent to your cost to break in new men. Do you know that it doesn't? We have no true figures for cost of turnover as yet. Until we get them we must rest our case upon such indirect evidences as Mr. Rheinfeldt's startling estimate.

We can also gather other evidences of the cost of breaking in new men by a study of plants which have kept a steady force, and by comparing production records per man at the beginning and at the end of the periods during which the reduction of labor turnover took place. This, however, is not a very reliable guide, because a good part of the increased production might have come from the introduction of more scientific methods. It is significant, however, that every plant in Detroit that has reduced its turnover of labor in the last year has increased output per man. In some cases it has doubled.

REDUCTION OF TURNOVER IS PRACTICABLE

It is not necessary, in fact, to prove that losing men costs money. There is a very general agreement upon that point and there is also a pretty general agreement upon the possibility of ascribing to success in creating a stable force some of the increase in production which appears concurrently. Employment managers, I take it, desire not so much to be persuaded that it is worth while to discover methods of reducing the needless exchange of employes as to have proof that they can keep men on the job by definite methods which have succeeded in other plants.

I have some very interesting figures on the reduction of turnover in Detroit plants during the last year, or thereabouts. Labor conditions during this time have been very disheartening, and, in all firms where employment departments have been established for a long time, the exchange of employes, in spite of intelligent work, has increased during the last year. This is a very interesting fact when taken in conjunction with another distinct and contrasting fact; namely, that in all plants that have installed employment departments within the last year or more, the turnover of labor has generally declined during this bad year.

Take the Saxon Motor Car Company, for instance. Its employment department has been in full running order only a little over a year and in the first year of its operation it has reduced labor turnover 140 per cent. This figure is obtained by subtracting the turnover figures at the end of the year from the turnover figures at the beginning. The employment manager of this company predicts a 50 per cent further reduction during the coming year, which will be bringing it down pretty low.

Take, again, the Hayes Manufacturing Company, where the employment department was established in April, 1915. In the first year of operation turnover was cut practically in two. And then in the next four months, from April to August, the turnover was more than cut in two again and has been declining slightly ever since. This reduction was accompanied by a 30 per cent increase in output per man. Then there is the Timken-Detroit Axle Company where the labor department has been in operation for sixteen months and where foremen are given a bonus for what is known as "force maintenance efficiency." During these sixteen months, this efficiency has increased 20 per cent. I refrain from giving the figures upon which this percentage is based because the Timken Company does not desire to reveal the exact turnover data.

One of the most remarkable records I know of, with regard to reduction of turnover as the result of the installation of a complete labor department, is that of the Solvay Company of Detroit. The record is so good that I am going to take the risk of quoting the exact turnover figures. The Semet-Solvay (Coke) Company and the Solvay Process Company occupy adjoining factories on the same plot of land but maintain entirely separate managements. Up to the first of June, 1916, the Semet-Solvay Company had an employment department and the Solvay Process Company, on the other hand, permitted each foreman to hire his own men.

When it came to the attention of the management of the Solvay Process Company that they were having labor difficulties which did not appear in the Semet-Solvay, the employment manager in the Semet-Solvay was given entire charge of hiring and firing in both plants. The average turnover for the two plants during the month of May was 10 per cent. In the month of June, after the employment department had taken over the work of the Solvay Company also, the turnover of the two plants dropped to 8.3 per cent. In July it was 8 per cent; in August, 4.1 per cent; in September, 3.3 per cent; in October, 3 per cent; in November, 2.6 per cent; in December, 2.4 per cent. This is the most remarkable record of employment department efficiency that I know of anywhere and when you take into consideration the fact that the average turnover of labor in Detroit was jumping up by leaps and bounds at the same time that the Solvay companies were greatly reducing their turnover, it appears even more surprising.

I have just analyzed the turnover figures for the last year in fifty-seven Detroit plants, and find that they average a little over 252 per cent per plant. This is, of course, very high because labor conditions have been unprecedentedly bad. The figures, however, are not as high as they would be if they did not include the comparatively low averages of plants having employment departments, as well as plants which allow foremen to do their own hiring and firing. An analysis of plants having labor departments against those having no labor department shows that, roughly averaged, the plants having no employment department hired three men to every two hired by those which did have employment departments.

I do not attempt to give more exact figures because I am somewhat skeptical of the correctness of many of the reports which came to me; particularly from plants that have no regular employment department. I suspect that if we had entirely reliable figures from all plants, the record of those having no employment departments would show up even worse in comparison than they do.

A COMPLETE PLAN FOR REDUCING TURNOVER

It would be enlightening, if there were space, to take each individual case of labor turnover reduction and trace out the methods by which this was accomplished. In a fairly short presentation, however, it is preferable to outline a complete scheme for labor turnover reduction based upon the combined experiences of a number of plants having employment departments. I desire, therefore, to offer what appears to be a combination of all the approved remedies for what is sometimes known as the "mobility of labor." Obviously not all parts of the complete scheme can be applied to every plant. And good authorities may feel that some of the methods outlined have no business to be in the scheme at all for any plant.

Permit me at the start a doubtful generalization. A certain manager of a Detroit plant, which had a complete installation of scientific management and which was used as a model for study by all other Detroit plants, left to take over the management of an automobile company in another city. He found the new plant devoid of any semblance of scientific management, and yet for a whole year he did nothing to change the internal methods of this plant. He found upon analysis that 80 per cent of the cost of his product came in the purchase of products made in other plants. Therefore,

in order to reduce the cost of his product he found that he would have to spend most of his efforts in reducing the cost of the products made outside. So it is, I think, with labor turnover. I believe that we may safely say that 80 per cent of the cost of turnover of labor is due to causes that lie outside of direct plant activities; that is, when the workman is off duty.

Now the remarkable thing that is developing in employment work in Detroit is a disposition to tackle the whole job of reformation. Like the automobile manufacturer just referred to, our employers are striving to reduce the 80 per cent item of cost of inefficient labor where the expense is incurred; that is, outside of their own plants. They recognize that turnover of labor is a special phase of the problem of inefficient labor and that the reduction of turnover is only the first step in a process of education and of economic pressure to elevate the standards of workmen. They aim not only to keep workmen, but to develop them. And they are prepared to go as far, even, as the workmen's own home-life to solve their problem.

Much of the impetus to this thorough-going effort comes from Henry Ford. Employers sometimes feel that they have much to forgive in Henry Ford, but most of his fault lies in doing so many things first. One of these is the extension of factory influence into the whole life of the worker. All Detroit plants are beginning to follow him in this, and I honestly believe that they are profiting by his experience, and are taking the best and leaving the worst of his plan. Denied the credit of initiating the plan and free from the fear of precipitating any such startled inquiries as have beset Mr. Ford, they are able to proceed slowly, quietly and cautiously. The results so far have been good.

Miss Ida M. Tarbell came to Detroit prepared to revolt at un-American interference with the private concerns of workers as evidenced by the Ford procedure, and went away convinced in its favor. Of the Ford scheme she said to the Executives' Club, "I don't care what you call it—philanthropy, paternalism, autocracy—the results which are being obtained are worth all you can set against them, and the errors in the plan will provoke their own remedies."

THE RELATIONS BETWEEN TURNOVER, INEFFICIENCY AND VICE

So you will find in my scheme of labor turnover reduction a concrete statement—a bill of particulars, so to speak—of the phi-

losophy of the more progressive Detroit employers. Turnover breeds inefficiency. Inefficiency breeds turnover and the only way to break the vicious circle is to attack them, both at one time, and, for the most part, outside of direct factory activities.

The employment department in this view becomes the vestibule not alone to the factory, but to a better life. The employment supervisor becomes a copartner with the teacher, the minister, the social worker in the business of reforming men. It wasn't Billy Sunday, it was the employers of Michigan that put the state in the prohibition column. They wanted to remove the saloon on the route between home and the factory. For the sake of securing more efficient workmen, our employers and their personal representatives, the employment managers, are fighting for the elimination of vice and gambling through Mr. James Couzens, formerly vice-president of the Ford Company, and now police commissioner. They are fighting for better schools through Mr. Mumford of the Edison, and now president of the school board, and for better city government, more adequate housing, and better street car facilities through the disinterested public services of many busy manufacturers.

Nor do our social reforming employment managers confine themselves to dragnet measures of improvement. The scheme I have assembled is a routine of particular measures involving the doctrines of "from each manufacturer according to his ability" and "unto each workman according to his need." Nearly every measure outlined is actually in effect in some Detroit plant and all of them, based upon experience somewhere, are at least in project.

DIFFERENT REMEDIES FOR TURNOVER

Let us take up remedies for labor turnover and inefficiency under four main headings: *preliminary, fundamental, supplemental* and *provocative* remedies, and speak first of the provocative remedies.¹

I believe in firing men as a final means of keeping men. We are in danger of getting too sentimental about turnover. We are too likely to regard every man lost as an unwholesome sign. There is a legitimate place yet for the "tin can" and when it is tied to man or beast, it ought to have something in it to make it rattle. But the condemnation that reverberates most noisily is the deliberate un-

¹See outline of these remedies, pages 29-32.

favorable judgment of one's peers. I believe that every discharge should be certified to by a committee on which workmen are represented. This is my notion as yet, but Dodge Brothers go as far as providing a blue envelope committee, and no arbitrary individual judgment can effect a discharge. Slowness and cautious fairness in getting into action, however, only advertises the final result. When a man goes out of that plant, he isn't summarily kicked out, it is true, but it looks much more impressive to be shoved out slowly by a consensus.

Let us, by all means, have the trump card of discharge in our hand and then strive to win by playing off suit. If it is clearly understood by workmen that the patience of the management is the forbearance of strength and self-control, all our other methods of reducing turnover will gain in effectiveness.

Now, strictly speaking, what I have classed as preliminary measures: namely, a cost system and a record system for turnover, do nothing in themselves to retain a permanent working force. But, without them, the effective measures are not likely to be applied.

A true cost system is an urgent necessity. If it is true, as Mr. Magnus Alexander estimates, that it costs \$73.50 to break in a new semi-skilled operative and only \$8.50 to take on a new laborer, mere percentage figures for turnover mean very little. I will not go into details at this time but I submit that we should know how much each type of new worker costs, in terms of diminished production resulting and of the excess equipment investment needed, increased scrap incurred and increased supervision and education required. Managers may affect to believe that it costs \$400,000 a year to hire 10,000 men, but they won't spend even \$50,000 to save that sum until you prove incontrovertibly the actual expense of new men. The thorough-going remedies for turnover are so expensive that until even the most skeptical managers are convinced we shall not get far with our corrective measures.

As for a complete record system, little preachment is necessary. The aim should be twofold. The records should reveal graphically not only the extent but the causes of turnover, and they should reveal the parallelism between high turnover and low efficiency. The basis, of course, is an individual register for each man, so complete that all other reports can be drawn directly off of this. Aside from the usual historical facts, showing dates of employing or transferring,

the starting rates and changes of rates and date of leaving employ, together with original application and examination forms, this individual record should be a chronicle of the workman's progress, on such items as earnings and bonuses, defective work, absences and tardiness, his complaints and those charged against him, a periodic certification by foremen, and, when he leaves, his apparent or declared reasons for going.

The turnover should be analyzed at least monthly, and the record should show: (a) by weeks, months and years, how long quitters have been in the employ, in order to reveal the critical periods when men are most lightly attached to their jobs; (b) by departments, to show what foremen or class of work are most at fault, and (c) by reasons assigned, to show what conditions call for improvement. It should show, also, (d) what operations furnish the greatest mobility, so that, if a cost of new employes has been established for each operation, the monthly losses from turnover can be exactly computed.

Fundamental remedies for turnover differ from what I call supplemental only in relative importance. If you hire men wisely, provide them with steady work at an adequate wage, and refrain from hasty discharges, your turnover will be comparatively low.

The supplemental remedies are refinements designed rather to promote efficiency in the man you keep, than to furnish additional means of keeping them, and are likely, thus, to exercise an indirect influence in reducing turnover.

IMPORTANCE OF CARE IN HIRING MEN

It is almost begging the question to say, hire the right men for the jobs, because, obviously, the right man is the man whom you will like and who will like you. But there is room for so much development here that I know of almost no other remedy that will reach so far. When foremen hire, they grab the first man who shows up, and fire him when he doesn't make good. And a good many employment managers do almost the same thing. In part, this is due to the fact that they haven't the resources to write up exact specifications for all the jobs for which they employ; still more because none of us has thoroughly satisfactory tests of ability and character. But still more it is due to enforced haste in filling requisitions. Foremen, planning department men and managers do not

give the employment department enough notice of men needed. A list of men required for the year's predicated production should be just as much a part of the engineering department's specifications as the blue prints and the routing. It is certainly as easy to predict men required as to predict cost, for without the labor, how can the cost be estimated? And, yet, how many employment departments know two days ahead, even, the men they will be called upon to hire? I say, inform your employment manager as far ahead to supply new men as you inform your purchasing agent to supply material.

With advance information he can build up the right kind of application list. If your files list only men that have applied voluntarily, it will be as unsatisfactory as a list of sales prospects that you might secure without solicitors or advertising.

The best application file is really a prospect file, built up as the result of a census of the workers suited to your plant, in your whole city and particularly your vicinity. The Cole Motor Company of Indianapolis has just completed an inclusive industrial census. The Saxon Motor Company of Detroit tells me that the simple measure that did most to produce its remarkable turnover reductions was the practice of preferring men who live within walking distance of the plant.

With a knowledge of men to be hired, the employment manager can prepare specifications and forms of examination which will do much to eliminate men who would not make good if hired.

Physical examinations are, of course, a necessity in a good system, and they should be tied up with the measures for improving men once on the pay roll, by having the examiner indicate deficiencies to be corrected. But even examinations and such other precautions as visits to the homes of desired applicants, and a checking up of previous records of employment can only be resorted to if ample time for inquiry is secured.

INDUSTRIAL EDUCATION, ADVANCEMENT AND WAGES

There is not space in this paper to deal with the question of industrial education, but it should not be overlooked that one does not always need to go outside of his own plant to put on a new man. It is always cheaper to transfer from a less important position an employe who has been in training for a promotion. A work force can be more certainly toned up by educating apprentices and giving a

continuing and broadening education to operatives than by hiring brand new men by any system of careful selection whatever. The growing demands of industry far outrun the supply of skilled workers, and not only to contribute its share of trained people but even to obtain its share, a plant must coöperate in the general educational program.

Now one of the most basic remedies for turnover is the payment of an adequate wage, and this can be urged only upon plants that have taken pains before hiring to ascertain whether the applicant's home life and standards of living, as well as his mental and physical fitness, promise his being able to earn an adequate wage.

By an adequate, I don't mean merely a minimum wage. I mean a good fat wage—one that will clothe, nourish and educate his children as well as feed him up properly. The Visiting Housekeepers' Association of Detroit estimates that the lowest possible minimum income for a family of five is \$89.00 per month, and no family in Detroit is wise enough to know how to spend that sum well. Eleven plants in the Executives' Club have undertaken deliberately to see that every workman, taking each case individually, by investigation, is sufficiently supported. Some of them discover that for special reasons some families cannot live on \$100 per month. Any number of plants, such as Packard, Cadillac, Solvay and Hudson, not only make general studies of cost of living but particular inquiries, and where necessary, pay off at good discounts the debts of overburdened workers, allowing them to return payment periodically.

In my outline I have indicated a number of ways in which the modern factory management follows up the pay envelope by helping the worker to escape the shark, to purchase wisely, and to stretch the purchasing power of every dollar he earns. Many mutual aid associations and several legal aid bureaus have already been established, and many plants encourage thrift and assist in home building. We not only have seven or eight coöperative stores in process of establishment, but six of them are considering plans to purchase jointly through the Executives' Club. A report on eighty-three successful mutual aid societies has been compiled by Helen Bacon of the Executives' Club staff. It may be obtained for one dollar.

As for the remedy of steady work, you should note that it is just as important to keep piece workers continuously supplied with

work, so that they can earn their expected income, as it is to regularize work from season to season so as to keep a level force. In fact, it is sometimes kinder to men to lay them off outright than to try to keep them while they are earning partial wages. Employment managers cannot do much to regularize production from season to season and from day to day, because these things are largely matters of administrative policy and of factory system, but if they recognize and advertise the importance of these things, they will focus the attention of their superiors upon the necessary remedies.

When I say, finally, under the head of fundamental remedies, don't fire hastily, I mean to urge not only that you curb ill-tempered foremen and curb your own impatience, but I mean, especially, give yourself time to influence men through the slower-acting measures, referred to in this outline under "Supplemental Remedies." It would be of very little avail, either as a means of re-selecting or of disciplining men who had failed in one job, to transfer them from department to department, as the Ford Motor Company, for instance, does with so much patience, unless every day counted not only to give a man new hope but new instruction.

So, I say, start your new men right, promote physical efficiency, foster good habits, make your work an unfolding career, and a sufficient future, and all the time encourage self-expression, not only of complaints but of suggestions and of coöperative interest and activity.

OTHER WAYS TO START MEN PROPERLY

To start new men right means not alone to give them a pleasant and encouraging impression of their new work but also to complete the job of hiring them. A man is not really engaged for a job until he is engaged in it, and too often plants throw needless difficulties into a man's path between the time they agree to hire him and the time when he settles down to work. An agreement to employ, in the first place, is not completed until the new man is given a definite guarantee of his starting rate of pay. You cannot be sure of a man's doing anything but spoiling work for a day and wasting your time if you take him on first and then let the foreman settle his rate of pay afterward.

Give your man a definite starting wage, and, so far as possible, a reasonable assurance of the rates to which he will be advanced at

stated times if he makes certain standards of efficiency. Then, if he accepts your job, you can be more sure of him.

But it is just as important to help a man get over his stage fright in tackling a new job. Most men suffer acutely in contact with strange surroundings. Even experienced workers discover unexpected obstacles in new machines, and most new men will be found to have exaggerated somewhat their qualifications in order to be taken on. You, of course, have discounted their statements, but they go to work uneasy in the thought that they have "put something over" on you and are afraid of being found out. Add to this their awkwardness with fellow-workmen and bosses, both strange to them, and their lack of acquaintance with the plant and you get a frame of mind which makes their work of little value to you, and the job seem undesirable to them.

One of the things which stood out in my mind after reviewing the many excellent methods of the German American Button Company of Rochester was the considerate way this company has of introducing new employes. New people are asked to come at an appointed time later than the hour when work starts, and are introduced by a representative of the employment department to their fellow-workers and made acquainted with the rules, the conveniences and the special attractions of the plant. A fellow-worker is commissioned to take them to luncheon the first day, and special queries are answered. It is important to follow up this method of introduction and to have instructors keep an eye on the new worker till he brings his efficiency up to normal.

It may be, and usually is, necessary to help a worker out with money or meal tickets, or to guarantee his board till the first full pay day. All the workmen I have known individually have gone to new jobs "dead broke." Often they quit on some pretext, after working a few days, in order to draw pay to keep from going hungry. The Studebaker Corporation in Detroit is especially liberal with respect to meal tickets or pay advances to tide the new workman over. Much injustice is done new workers in keeping them on day rates after they have become proficient enough to be put on piece work. While I have not analyzed from this point of view the high turnover of labor which, I know, comes chiefly in the first few weeks of employment, I suggest that a comparison would show that turnover is highest at just the time when new workers should be put on

piece work and are not. I have followed the cases of workers for whom I secured jobs, and know that many cite this as a reason for quitting. Two plants I know of make special rates to beginners higher than the piece rates of experienced employes so that they can measure their progress from day to day and more speedily get on a profitable wage. This is a kind of minimum wage guarantee with the added value of an efficiency scale.

PROMOTING PHYSICAL EFFICIENCY

Assuming our workmen well hired and well started, the promotion of physical efficiency is a direct means of increasing production and of helping men to earn pay which will keep them on the job. There are so many things entering into this that it is a good thing, when the resources of the company warrant, to have a physical department as a branch of the employment division, with a high grade physician and several nurses in charge. There is not space in this paper to mention any of the many plants which do this. The last convention of the American Medical Association devoted a section to physicians in industrial practice, and there is now a national conference board on the subject. The physical department will generally conduct examinations of desired applicants for employment, but I prefer the more economical method of the Flint, Mich., Manufacturers' Association, of a central physical examination bureau for applicants. The general adoption of this plan would free the time of plant physicians, who would still be needed to conduct periodic examinations of all workers, as a basis for advice on better health. Such periodic examinations may be voluntary at the start, and perhaps 70 per cent of the employes will come forward. Later, say after the second or third time, it can be made compulsory. It will reveal surprisingly the causes of low production in many cases, and help to eradicate them. The physical department should supervise plant conditions from the point of view of health, and should have authority on the improvement of ventilation, heating and lighting, and the reduction of noise, dirt and noxious and unpleasant odors, as well as the sanitation of oils and waste, the purification of drinking water and the cleanliness of all public rooms.

The Joseph and Feiss Company in Cleveland and the German American Button Company in Rochester are among the plants which find it profitable to add a dentist and an oculist on part time

to care for the teeth and eyes of employes. Most workmen have bad teeth, with resulting indigestion and other degenerative diseases, and defective eyesight can injure workmen and slow up work before they lead to the danger of accidents.

The physical department, of course, has charge of the emergency hospital, and in this connection it is worth while to say that first-aid should be prompt, adequate and accessible, as it too frequently is not.

But much work should be done away from the plant. Physician and nurses should visit workmen kept home by sickness, that of their families as well as their own, so that they will not be allowed to neglect illness. Home visits help reduce absenteeism, but they are justified on their own account in promoting physical efficiency. Plant doctors making home visits will know how to avoid conflict with other physicians with whose work they may seem to interfere. There are other measures which do not come within the field of a physical department which are advisable, nevertheless, on the score of increasing a workman's efficiency. Such expedients are plant restaurants, shorter work-hours, plant athletics, rest periods during the day, and yearly vacations with pay.

If possible, a factory should arrange to maintain its own restaurant, which, if properly managed, can be self-supporting. It diminishes a workman's energy to eat, possibly at his machine, a cold lunch carried in a paper parcel from home.

SHORT WORK-HOURS AND REST PERIODS

Shorter work-hours, while diminishing output for the day, increase it for the period. On principle I favor the eight-hour day, or, at most, the fifty-hour week, and in some arduous or intensely monotonous tasks I favor an even shorter day.

An investigation which I made a year ago among plants having the short workday convinced me that where a worker is not limited in output by the nature of the process, he will do as much in forty-eight hours as sixty. Of course, to secure this result the plant must be organized to keep him continuously busy for eight hours, and an incentive wage payment system must induce full effort.

My prejudice in favor of the eight-hour day springs wholly from my belief that it is an economy for the well organized factory and a gain for the community. Where issues with unions arise over the

matter or where consideration for the interests of other manufacturers enter the question it may be advisable for a limited time to maintain longer hours on principle. There is always something to be said for the *status quo*, and where hours are to be shortened, the employer has a right to demand time for adjustment so as either to secure some increase in effort from the workmen or to pass on to the consumer the added expense assumed for community good.

Furthermore, I believe that for securing increase in physical efficiency it is preferable to distribute a part of the added leisure time through the workday in the form of rest periods. The Aluminum Castings Company of Detroit gives a five-minute rest period each half day. A company in Rochester allows one rest period of three to twelve minutes in every hour, according to the nature of the work. To secure conformity it shuts down the power and has recreation organized to utilize the time. There is as yet no dependable information on fatigue, in spite of certain German researches and the more recent studies of the British Association and the Munitions Ministry, but the experience of the army with regard to forced marches and the experiments made by Frederick W. Taylor long ago demonstrated measurable benefits from rest periods. Any manager may make a first test by observing the effect of rest periods in his stenographic department. A working principle is that the more repetitive the operation is, the shorter the cycle of time, the more frequent but briefer is the rest required. And, too, I should consider it advisable to make rest periods either longer or more frequent toward the close of the day.

A vacation is one kind of rest period in the above sense. Shop men need it, perhaps more than office workers, and should secure it on the same terms. It is advisable to tie the vacation plan up with the measures to reduce absenteeism by making the length of the vacation with pay vary with the number of weeks of satisfactory attendance. Strike fever is often vacation fever. Shrewd managers, if they had no more altruistic aim, might well plan vacations to promote industrial equanimity.

It is needless to elaborate on the benefits of athletics in relation to health. They are, if anything, more important as self-expression, which I shall mention later.

DEVELOPMENT OF GOOD WORK HABITS AND OF SELF-EXPRESSION

A separate supplemental remedy for turnover is the development of good work habits. This relates particularly to punctuality and regularity. The man who is on time every day is least likely to quit work. His mental attitude becomes fixed in a feeling of responsibility toward his work. But the worker who becomes casual with regard to attendance has taken the first step toward total delinquency. You have only to picture the subconscious mental processes of a man who remains away from work one day needlessly, to appreciate the subtle change of attitude he bears toward his job. To foster good habits, we enumerate such measures as prompt investigation of causes of unexcused absence, strict penalties for tardiness, bonus for regular attendance (one Detroit company for instance paying twenty-five cents a day extra for a month's perfect record) and the establishment of a pay system such as piece work, premium or bonus, which encourages and rewards accuracy, high output and punctuality.

All other remedies for turnover are likely to be chiefly negative or counteractive unless the management encourages self-expression. First, hear complaints. No matter how unwisely or unfairly objections are presented, give men every chance to "knock." Let them come individually by preference. But even if you deprecate grievance committees, never refuse to hear a committee once appointed. Some men satisfy complaints by being allowed to air them, just as some old people desire not so much to be cured of ailments as to have ailments to describe.

It is better, however, to pick up complaints before they become grievances—while they may be still an expression of some form of idealism—and to deal with disquieting aspirations before they become programs. For this purpose shop meetings called by managers, and scheduled to discuss pleasant and hopeful enterprises as well as difficulties, preserve good feeling. Likewise parliamentary leaders who head off taking a vote until the majority will fall their way, or who sense out a needed compromise or recession before it is exacted, a good manager can employ a shop meeting either to approve his suggestions or to applaud his discernment.

But self-expression goes beyond this. It may be interest in work evoked by a suggestion system. If you make it an invariable

practice to acknowledge in writing every proposal in writing, you have a suggestion system. Boxes to receive letters, and prizes, commendation and promotions to reward them, are mere refinements. Then there is the still more exuberant and satisfying form of self-expression which appears in social, athletic and coöperative organization. We are all nearly as ambitious for communal as for financial rewards. You cannot bring five hundred people together in a factory or anywhere else habitually without providing a field for social striving. They crave organization, fun, activity and influence upon one another. You, as managers, can capitalize this tendency to the advantage of your enterprise. You can make your organization a real family, your plant a communal home.

Self-expression is self-rewarding. No life is complete without it and the factory which does not promote it is repressing a vital part of the complete life.

Now, when we reduce turnover of labor we assume certain responsibilities. Building up a permanent working force means securing permanent employes, men and women who stay with us till they grow old, and retire or die. We must, therefore, make their work more completely satisfying. We must make their work a sufficient career. Self-expression is one part of it, and there are other elements in it.

I know of few plants where routine factory work is a sufficient career, but I see no reason why it should not be. Doctors look forward cheerfully to going on being doctors. Lawyers have no difficulty in finding their life work in the law. Other professions are satisfying to those who follow them, and yet such is the nature of factory work at present that it savors a bit of the desire to perpetuate class distinctions to suggest that factory workers content themselves with the prospects of continuing as factory workers. Some wicked agitator has suggested that employers appropriate the motto of a big New York dairyman "Milk from contented cows" as suitable to the aim of managers to keep workers permanently on the job. The way to make that aim worthy is to arrange conditions so that factory work is in itself an agreeable career.

For one thing there must be definite standards of promotion and pay increases. A Detroit factory discovered a workman in its employ who had gone five years on one rate of pay. A Pittsburgh plant till recently was paying three different rates of pay for the same operation under three different names in different departments.

There should be variety of interest, too. The modern subdivision of labor makes a given task a drudgery, monotonous and intellectually stagnant, but it brings with it the possibility of frequent transfers so that, with proper instruction, a man can follow all the steps of a process without great cost to the plant. The Ford Motor Company asks each employe to fill out a card stating the jobs to which he would like to be transferred when it is possible. A company in Rochester encourages employes to fit themselves for more responsible positions and higher earning power, by reimbursing for their outlay those who complete courses of study. The subject of industrial education again hinges upon our discussion at this point, but it is too big to deal with here.

No work is a career, of course, unless it is possible through it to provide for old age. Those plants which succeed in establishing permanent working forces have the inescapable responsibility of providing for the future of all workmen. Group insurance and other forms of life insurance are good, but not sufficient. They do nothing for the workman between his retirement and his death, and serve but poorly even to compose his fears for his family after his death, because nearly every penny of industrial insurance now goes merely to pay funeral expenses.

A pension system helps to bridge the gap between superannuation and death. Any kind of old age pension is good, but we should lean, surely, toward the kind that appears least to be a charity on the part of the company. The income from an investment to which the workman has contributed and which the company has helped him to accumulate is not charity, and has the further merit of leaving an inheritance to the family. Any profit-sharing scheme like the Procter and Gamble plan, which gives the employe a form of stock ownership, has this merit. The most carefully thought out scheme is that of the Baker Manufacturing Company of Evansville, Wisconsin, which provides for a fifteen-year pension after retirement on a partial resale to the company of the stock secured out of profits shared.

These are ambitious plans. The program outlined above is a particular scheme comprising nearly all of the proposals successfully introduced for the attempted solution of the labor problem. Altogether they may not solve it, but incomplete as they may be, they are sufficiently aspiring and they are all that managers can undertake on their own responsibility.

Even if all of these proposals are applicable to most plants, no factory that has so far failed to inaugurate most of these things can hope immediately to get them all going. It will have to go slowly for two reasons, especially. In the first place, it is impossible to apply any new scheme to all employes at once. This is particularly true if, for the expedient to be successful, it must be understood and believed in by the employes. In such a case it must begin with only those who are ready for it. When the Jeffrey Manufacturing Company of Columbus, Ohio, began its building and loan association seven years ago, only eighteen workers out of five hundred who at first expressed interest were sufficiently impressed to make an actual beginning. Now, over a thousand belong to the association and they have over a half million dollars invested. Most good enterprises with workmen have begun in this small way, and no employer should be discouraged by a meager start if the principle at stake is important.

But it is even harder to make an industrial program succeed promptly owing to the difficulty that a plant has in establishing its character with its workmen. It is so even with individuals. We do not easily believe in the permanence of good intentions. We intensely desire to find friends in whom we can trust and who will be as helpful and patient with us ten years from now as today, but experience makes us cautious. Once we are convinced of the unalterable integrity of a friend, there is no gift of adoration too extravagant to lay at his feet.

Workmen have been disappointed too often to be anything but skeptical. They have tested too many mere paper plans for their welfare to place any easy reliance upon new ones. But when a management, by undeviating honesty, determination and good spirit, carries through during a term of years a program of employes' betterment, it cannot fail to win their confidence and friendship.

HOW TO REDUCE LABOR TURNOVER*

1. Preliminary Measures

- a—Attempt to learn the true cost of turnover in your plant in order to know how much you can afford to spend to eliminate it

*An outline of the essential part of the scheme pictured by the author in the foregoing article. Note that this scheme is intended to be complete and is therefore impossible of universal application *in toto*.

b—Keep adequate records as means of analysis of sources and causes of turnover

- (1) Historical and statistical record separate for each employe including date of employing or transferring, rates, earnings, bonuses, defective work, complaints by or against man, absence, tardiness, periodic certification of foremen, date of quitting and reasons
- (2) Turnover by departments, by causes, by weeks and months and years, and by classes of skills
- (3) High and low earnings by departments
- (4) Defective work by departments
- (5) Absenteeism and tardiness by departments

2. *Fundamental Remedies*

a—Hire the right men for the jobs

- (1) Work up good application list which is a "prospect file" by vigilant search of sources of supply, by industrial census of your vicinity, by courteous and hospitable treatment of applicants at all times, and by getting a good name for your factory even from men who have quit you
- (2) Using your present work force as a "prospect file," coöperate with agencies for industrial education, supplementing them with apprenticeship training, to build up a system of promotion and transfer
- (3) Secure time to examine new applicants thoroughly by receiving advance notice of need and by using adequate assistance in employment department
- (4) Hire in accordance with written specifications for each job, prepared at leisure, and after due consultation and criticism
- (5) Prepare a definite scheme of direct examination for each type of work, using as much of the character reading methods as your experience approves
- (6) Examine physically with view both to general fitness, to suitability for specified job, and to need of later up-building
- (7) Visit homes of desired applicants
- (8) Check up records of previous employments
- (9) Hire only those who can earn an adequate wage

b—Pay an adequate wage

- (1) Study cost of and facilities for decent living for each workman and use results in setting base rates
- (2) Give special study to cases of inefficient workmen, to see if money troubles are affecting them
- (3) Centralize and pay off at discount, debts of overburdened workmen
- (4) Promote mutual aid association
- (5) Establish legal aid bureau
- (6) Pay weekly
- (7) Discourage alcoholism
- (8) Instruct in proper use of income

- (9) Encourage thrift and home-building
- (10) Where special causes for increased living cost obtain, attack them, as by coöperative stores, housing measures, etc.

c—Provide steady work

- (1) Give piece workers steady flow of material during the day, by proper scheduling system
- (2) Regularize production throughout the year to minimize lay-offs and shut-downs
- (3) Abolish the annual physical inventory, in favor of perpetual inventory with continuous checks
- (4) Make repairs promptly and provide a sufficient reserve supply of tools

d—Don't fire hastily

- (1) Check up foremen whose departments show high turnover records through men's quitting
- (2) Don't let foremen discharge at all
- (3) Give unsatisfactory men at least one chance through transfer
- (4) Establish employment committee to review cases of discharge where men appeal
- (5) Establish foremen's club to study ways of getting along with men
- (6) Interview, before paying off, men who quit voluntarily

3. Supplementary Remedies

a—Start new men right

- (1) Make clearly understood agreement as to starting pay and schedule of advances
- (2) Introduce new men to bosses, to fellow-workers, and to physical surroundings, and acquaint with rules and facilities of plant
- (3) Instruct men thoroughly in new task
- (4) Advance money or meal tickets to beginners short of funds
- (5) Help beginners speedily to get on piece or bonus rates

b—Promote physical efficiency

- (1) Establish physical department
- (2) Examine all workmen periodically and provide machinery for following up those found to be defective
- (3) Provide adequate light, heat and ventilation
- (4) Reduce noise, dirt and noxious odors and fumes
- (5) Purify oils, waste and other supplies
- (6) Purify drinking water
- (7) Provide sanitary lockers, wash rooms and toilets
- (8) Insist upon good teeth and good eyes by using, at least on part time, the services of a dentist and an oculist
- (9) Have nurses or doctors visit those kept home by illness
- (10) Provide mid-workday meals at plant
- (11) Provide good tools and fatigue minimizing equipment

- (12) Shorten work-hours while securing fair output
- (13) Provide at least three rest periods during the day
- (14) Arrange for yearly vacations with pay for all employees. This can be on the basis of an efficiency record or punctuality record
- (15) Promote athletics

c—Foster good habits

- (1) Investigate causes of unexcused absence
- (2) Fix strict penalties for tardiness and unexcused absence
- (3) Bonus regular attendance
- (4) Establish pay system that encourages and rewards accuracy, high output and punctuality

d—Give all employees a hearing

- (1) Hear complaints at all times, no matter how put forward
- (2) Hold regular shop meetings by departments and by divisions to hear men's ideas
- (3) Establish system for considering written suggestions from men; and rewarding with commendation, prizes, or promotion, all thought worthy, and acknowledging all such suggestions without exception
- (4) Encourage all forms of self-directed organization, whether of athletic, social, or coöperative enterprises—provided such organization is not subject to orders from persons outside of your plant and contrary to its interests

e—Make work in your plant a sufficient career

- (1) Establish system for granting unasked-for pay increases as deserved
- (2) Discover ambitions of men for future transfers and promotions
- (3) Help train men to new tasks
- (4) Transfer with some liberality
- (5) Encourage men to improve general education by reimbursing for outlay on courses of study as completed

f—Provide for future of all workmen

- (1) Purchase group insurance for all workmen
- (2) Pension disabled or superannuated employees
- (3) Share profits on some form of stock-sharing basis, possibly in lieu of pension scheme

4. *Provocative Remedies*

a—Fire when other methods clearly fail

- (1) Those with chronic social diseases
- (2) Those whose morals menace the high standards of fellow employees
- (3) Those who persist in agitation
- (4) Those who will not quit drinking

b—Submit all such discharges to appeal committee on which employees are represented